

GUIDANCE TO EVALUATE THE PLANNING AND IMPLEMENTATION OF A POLLUTION PREVENTION (P2) PROGRAM

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ABSTRACT: Too often, Pollution Prevention (P2) Coordinators are given the task to develop, implement, and manage the P2 Program with little or no guidance, support, or training. Consequently, it may be difficult for them to determine the actual status of their P2 Program with regard to meeting the 50% Hazardous Waste (HW) reduction goal by December 1999. This is especially evident if a Plan of Action and Milestones (POA&M) has not been created and adhered. Official guidance documents are available but may not be specific enough, may be too confusing, or possibly overlap and conflict with other guidance. In this study, a number of guidance documents were examined. The result was the development of a series of simplified and comprehensive checklists to evaluate a P2 Program. Specifically, these checklists can serve to evaluate a P2 Plan, develop a POA&M for P2 Program implementation, and measure the progress of a P2 Program. More importantly, these checklists can be used to avoid costly and time-consuming barriers to implementing the P2 program and its initiatives. The results of this study can also aid the P2 Coordinator in identifying the resources and commitment that will be required to implement P2 initiatives. A natural development generated from this study is to automate these checklists, and eventually include a cost/benefit module designed specifically for the P2 Program to better assess the desirability and feasibility of individual P2 initiatives.

INTRODUCTION

The Pollution Prevention Act (PPA) of 1990 was enacted to reduce the generation of hazardous wastes (HW) and consequently, decrease the toxic impact of their discharge in the environment. As a result, Executive Order (EO) 12856, subsequently signed on 3 August 1993, directed each federal agency to develop and implement a pollution prevention (P2) strategy to reduce HW discharges by 50% before 31 December 1999. These agencies were directed to conduct facility and acquisition activities so that the quantity of toxic chemicals (TC) entering any waste stream would be reduced as "expeditiously as possible to the maximum extent practicable".

As a result of EO 12856, a number of P2 guidance documents were developed for each federal agency, commonly from various levels within each federal agency. Initially, these guidance documents, some poorly written and in conflict, were confusing. Revised guidance documents were more useful, took more of a straightforward approach, and provided a great deal of information. Yet, the implementation of P2 programs has been met with varying success.

A recent study (1) revealed that Pollution Prevention (P2) Programs at some government installations have encountered various implementation problems. This study identified a number of causes that contributed to these problems. For instance, the P2 Program was not sufficiently developed or implemented. Inadequate or unused P2 Plans, the wrong approach to CHRIMP implementation, and resistance to change were a few of the causes cited. In some cases, P2 management and resources were ineffective, while deficient P2 guidance was cited for other cases.

Although most federal activities did not formally begin their P2 Program until the end of 1995, their programs have had the opportunity to mature. However, P2 Coordinators are still encountering problems; their P2 Programs can generally still be improved. Additionally, the question, Can the P2 Program be sustained after the year 2000?, looms on the horizon.

This study revisits P2 guidance and culminates in a compilation of concise and direct checklists on P2 Program planning, P2 Plan suitability, and P2 Program implementation to be used as tools to accomplish the following: 1) serve as a guide for performing an evaluation of the program's status and progress, 2) provide comprehensive guidance to be used as a trouble-shooting tool, 3) use as a guide for special P2 projects or revising the P2 Plan, 4) stimulate an anemic P2 program by generating new ideas and opportunities for HW reduction, and 5) use to make beneficial adjustments to the P2 Program strategy. The overall objective of this study is to step back and look at the P2 Program holistically. An effort to better understand the P2 Program at this time will help ensure sustainability in striving toward the P2 goal and beyond. This program is intended to become part of the command culture, and these efforts should continue to make that possible.

METHODOLOGY

To provide a checklist that would be considered easy to use, yet comprehensive, a number of P2 guidance resources were examined (2-8). Inconsistencies between the guidance documents were resolved by simplifying and organizing them. Also, the vast amount of information provided by these guidance documents was assimilated and condensed. The result was the generation of three checklists - organized summaries of the P2 Program - that are designed for ease of use. However, it should be noted that these checklists are unofficial, and should only be used as an internal guide.

Evaluating Pollution Prevention (P2) Implementation. The purpose of this checklist (Table 3) is to identify the required resources to ensure the implementation of an effective P2 Program. Again, key aspects include: management commitment, designation of the right P2 Coordinator, outlined responsibilities, adequate resources, training, good communication, and accountability. The P2 Implementation Committee must be interdepartmental, bringing together the functional groups having authority over HM management and specific-processes. The committee is established to advise the CO on policies and procedures designed to implement the P2 Program. Suggested functions include: integrate P2 planning into a coordinated P2 Program, periodically review operations involving HM to identify P2 opportunities, approval authority for methods and procedures for the P2 Program, establish a P2 awareness training program, propose annual reduction goals, monitor the progress of specific-process improvements, and make recommendations to improve P2 effectiveness. The HW Management Plans and the emergency procedures in the Spill Contingency Plans must be referenced in, or incorporated into the P2 Plan. An oversight of the P2 Program will be conducted by performing an annual review to evaluate the objectives and the effectiveness of the P2 Plan, and to recommend changes and improvements. Record keeping and reporting includes HM inventory control documents and records for HAZCOM and RCRA training. More importantly, a formalized and dynamic P2 instruction establishing actions and responsibilities must continually be promulgated.

CONCLUSIONS

For federal activities, the P2 Program is chronologically halfway to 31 December 1999, the deadline to accomplish the goal of a 50% reduction of HW generation. It is a good time for each activity to evaluate their P2 Program, what it has accomplished and what it has left to accomplish. With regard to sustainability, there appears to be a need to jumpstart the P2 Program and ensure that this program is a continuing process, even beyond the goal deadline. When a program is stagnated, a return to basics can generate ideas that can prove beneficial to the resurgence and continuity of the program. The checklists presented in this study provide basic guidance for a fundamental P2 Program. Their purpose is to serve as tools to assist P2 Coordinators who desire to evaluate their P2 Program. One possible way this can be accomplished is to grade each checklist item with a weighted scale. This could be automated and combined with a cost/benefit module to provide better information for P2 management decisions. These checklists can also be useful when proposing and implementing a new P2 initiative. They are bullet-formatted guides to the whole P2 process.

REFERENCES

- McNally, D. L. 1997. Pollution Prevention Program Development and Implementation at Naval Installations: A Critical Review. pp. 403-409. In Proceeding of the Second Annual Joint Services Pollution Prevention Conference and Exhibition. San Antonio, TX.
- CNO ltr of 21 December 1993. "Standard Operating Procedures (SOPs) for Pollution Prevention (P2) Plans".
- OPNAV P45. "Pollution Prevention Guide". 1994.
- OPNAVINST 5090.1B. 1994. "Navy Environmental and Natural Resources Program" Manual.
- DOD "Interim guidance on Environmental Management Systems". Undated
- DOD "Pollution Prevention Overview". Undated.
- DOD "Revised Implementing Guide/EO12856". 1995.
- DODI 4715.4 "Pollution Prevention". 1996.

Table 1. Evaluating P2 Program Planning Obtain Guidance The P2 Team Preliminary Planning Document Review Set P2 Goals Scheduling; POA&M Developing the P2 Plan Establishing Administrative and Management Elements Awareness Training, HMC&M, Implementation, Annual Update, etc. Command Commitment Data Collection and Site Assessment Collect Process-Specific Data Document Existing Pollution Prevention

Measures Site Assessment Identify and Analyze Reduction Opportunities Prioritize Reduction Opportunities Preparing the Assessment Report Identify P2 Options Evaluate P2 Options Technical Evaluation Economic Evaluation Rank Pollution Prevention Options Make Recommendations Prepare the P2 Plan

Table 2. Evaluating the P2 Plan Purpose Policy Applicability and Scope Applicability Scope Description of Shore Activity Mission Statement Geographical Designator Nature of Operations Current Status of Regulatory Compliance Summary of Current P2 Practices and Assigned Responsibilities Administrative and Management Elements Assignment of Actions and Organization of Administrative Effort Identifying P2 Training Source Reduction, Reuse, and Recycling Incentive Programs Procedures for Exchange of Information Update and Refinement of Plan Procedures of Measuring Hazardous Material Management Procedures Planned Process-Specific Improvements Identify Develop Options Summarize and Rank Recommended Actions Specific State and Local P2 Requirements Results of the Process-Specific Improvement Evaluation Priorities Potential barriers to the P2 Plan Other Requirements Legislation Other Required Environmental Management Plans Local Pollution Prevention Requirements Information Transfer Requirements Commanding Officer's Certification of Accuracy and Completeness

Table 3. Evaluating P2 Implementation P2 Program Development P2 Program Elements P2 Implementation Committee Membership Chairperson CO or designee Other Members: Environmental Division Occupational Safety and Health Supply (Receiving and Shipping) Contracts (Material Procurement) Operations (Production, Mission, etc) Public work/facilities Technical Specialist (Chemist) Production Planning/Engineering Quality Assurance Emergency Response Suggested Functions of the P2 Committee HM Management HM Inventory MSDSs Labeled HM and HW Containers The Safe Use of HM HM Acquisition Controls and AULs Safe Receiving, Distribution, Issuing, and Shipping of HM Storage of HM Specific-Process Improvements Complete Action Monitor Effectiveness Identify Addition P2 Opportunities Management of HW Emergency Response Planning Oversight of P2 Activities Recordkeeping and Reporting